

What is Claimed is:

1. A stack-type semiconductor device formed by stacking a plurality of semiconductor devices, at least an undermost semiconductor device among the plurality of semiconductor devices comprising:

a semiconductor element having a through hole and a plurality of electrodes formed on a first surface of the semiconductor element;

a conductive layer which is electrically connected to the electrodes, and is provided from the first surface through an inner wall of the through hole to a second surface of the semiconductor element which is opposite to the first surface; and

a plurality of connecting portions provided on the conductive layer so that a distance between two connecting portions among the plurality of connecting portions is different from a distance between at least two electrodes among the plurality of electrodes, on at least one of the first and second surfaces.

2. A stack-type semiconductor device formed by stacking a plurality of the semiconductor devices adjacent semiconductor devices among the plurality of the semiconductor devices being electrically connected by the conductive layer, each semiconductor device comprising:

a semiconductor element having a through hole and a plurality of electrodes formed on a first surface of the semiconductor element;

a conductive layer which is electrically connected to the electrodes, and is provided from the first surface through an inner wall of the through hole to a second surface of the semiconductor element which is opposite to the first surface; and

a plurality of connecting portions provided on the conductive layer so that a distance between two connecting portions among the plurality of connecting portions is different from a distance between at least two electrodes among the plurality of electrodes, on at least one of the first and second surfaces.

3. A stack-type semiconductor device formed by stacking a plurality of the semiconductor devices, adjacent semiconductor devices among the plurality of the semiconductor devices being electrically connected by the conductive layer; and in a pair of semiconductor devices among the plurality of the stacked semiconductor devices, the projections of the stress relieving layers being arranged to face each other, each semiconductor device comprising:

a semiconductor element having a through hole and a plurality of electrodes formed on a first surface of the semiconductor element;

a conductive layer which is electrically connected to the electrodes, and is provided from the first surface through an inner wall of the through hole to a second surface of the semiconductor element which is opposite to the first surface; and

a plurality of connecting portions provided on the conductive layer so that a distance between two connecting portions among the plurality of connecting portions is different from a distance between at least two electrodes among the plurality of electrodes, on at least one of the first and second surfaces; and

a stress relieving layer formed on at least one of the first and second surfaces, wherein the conductive layers are formed to reach the stress relieving layer, the stress relieving layer including a plurality of projections, the conductive layer being formed to reach the projections.

4. A stack-type semiconductor device, comprising a first semiconductor device and a second semiconductor device which are stacked, each of the first and the second semiconductor devices including:

a semiconductor element having a through hole and a plurality of electrodes formed on a first surface of the semiconductor element;

a conductive layer which is electrically connected to the electrodes, and is provided from the first surface through an inner wall of the through hole to a second surface of the semiconductor element which is opposite to the first surface; and

a plurality of connecting portions provided on the conductive layer so that a distance between two connecting portions among the plurality of connecting portions is different from a distance between at least two electrodes among the plurality of electrodes, on at least one of the first and second surfaces; and

a stress relieving layer formed on at least one of the first and second surfaces, wherein the conductive layer is formed to reach the stress relieving layer;

wherein the first semiconductor device is a semiconductor device in which the stress relieving layer comprises a plurality of projections, and the conductive layer is formed to reach the projections;

wherein the second semiconductor device is a semiconductor device in which the stress relieving layer comprises a plurality of projections, a plurality of recessed portions

are formed between the adjacent projections, and the conductive layer is formed to reach the recessed portions; and

wherein the adjacent first and second semiconductor devices are electrically connected by the conductive layer, the projections in the first semiconductor device entering the recessed portions in the second semiconductor device.

5. The stack-type semiconductor device as defined in claim 1,

wherein an undermost semiconductor device is arranged so that the first surface of the semiconductor element faces other stacked semiconductor devices.